

IN THE CLAIMS:

- 1 1. (Original) A fluid controlling assembly for use in a direct oxidation fuel cell,
2 which fuel cell has an anode chamber and a cathode chamber, the assembly comprising:
3 an adjustable component at least a portion of which is disposed within the cathode cham-
4 ber of the fuel cell, and said component, when adjusted, regulates the rate at which fluids
5 travel into and out of the cathode chamber of the fuel cell.
- 1 2. (Original) The fluid controlling assembly as defined in claim 1 wherein said ad-
2 justable component regulates the rate of flow of oxygen into and out of said cathode
3 chamber and in a predetermined adjustment state is used to shut down the fuel cell by
4 substantially preventing oxygen from flowing into said fuel cell.
- 1 3. (Original) The fluid controlling assembly as defined in claim 1 further compris-
2 ing:
 - 3 (i) at least one rotatably mounted frame disposed adjacent an oxygen source
4 associated with a cathode side of said direct oxidation fuel cell;
 - 5 (ii) a gas impermeable component comprised of a membrane that is disposed
6 within said frame such that said frame in a first position controls the rate of the
7 flow of oxygen into and out of the cathode chamber, and in a second position sub-
8 stantially resists the flow of oxygen into the cathode chamber.
- 1 4. (Original) The fluid controlling assembly as defined in claim 1 further compris-
2 ing a plurality of frames rotatably mounted on hinges disposed over an oxygen source
3 associated with the cathode side of said fuel cell, and each said frame includes a gas im-
4 permeable material disposed within the frame.
- 1 5. (Original) The fluid controlling assembly as defined in claim 1 wherein the direct
2 oxidation fuel cell is an air breathing fuel cell, said oxygen source is ambient air, and said

3 one or more frames are placed over the air breathing face of the fuel cell to control the
4 flow of ambient air into and out of the fuel cell.

1 6. (Original) The fluid controlling assembly as defined in claim 1 further compris-
2 ing

3 a control system for variably actuating the position of said adjustable component
4 of said fluid controlling assembly.

1 7. (Original) A fluid controlling assembly for use in a direct oxidation fuel cell,
2 comprising:

3 (i) a first component that includes an aperture disposed in a cathode chamber
4 of the direct oxidation fuel cell; and

5 (ii) a corresponding second component such that placement of the first com-
6 ponent relative to the second component results in an opening that permits the
7 flow of fluids therethrough, and when closed restricts the flow of fluids into the
8 cathode chamber.

1 8. (Original) The fluid controlling assembly as defined in claim 7 further compris-
2 ing said first and second components are generally planar components that include corre-
3 sponding apertures, which when aligned create openings and said first and second com-
4 ponents can be adjusted relative to one another to control the rate of fluid flow through
5 said openings.

1 9. (Original) The fluid controlling assembly as defined in claim 8 further compris-
2 ing said apertures of said first and second components being lined with a gas permeable,
3 liquid impermeable film that controls the rate of flow of oxygen therethrough to control
4 the cathode reactions, yet restricts the flow of liquid water therethrough such that humid-
5 ity is maintained within the cathode chamber.

1 10 (Original) The fluid controlling assembly as defined in claim 7 further compris-
2 ing a control system for variably actuating the position of at least one of said first and sec-
3 ond components of said fluid controlling assembly.

1 11. – 26. (Cancelled)